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Date: January 31, 2012

By /Marvette Ferguson/
Marvette Ferguson

Attorney Docket No.: 101769-359 WCG
Client Ref. No.: 9500Hear203043t
Confirmation No. 7538

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Marc HUSEMANN, et al.
Serial No. : 10/578,231
Filed : February 2, 2007
For : HOT-MELT ADHESIVE
Art Unit : 1798
Examiner : Anthony J. Frost

January 31, 2012

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

APPELLANTS' BRIEF ON APPEAL PURSUANT TO 37 CFR § 41.37

Sir:

This is an appeal from the final rejection of an Examiner of Art Unit 1798.

1. REAL PARTY IN INTEREST

The instant application is owned by tesa SE (formerly tesa AG), record owner hereof.

2. RELATED APPEALS AND INTERFERENCES

The undersigned is not aware of any prior pending appeals, interferences, or judicial proceedings that are related to, directly affect, or would be directly affected by, or have a bearing on the Board's decision in this appeal.

3. STATUS OF CLAIMS

The claims pending in this application are claims 2 - 6 and 18, and all of said claims are finally rejected and all of said claims are under appeal.

4. STATUS OF AMENDMENTS

No amendments were filed subsequent to final rejection.

5. SUMMARY OF THE CLAIMED SUBJECT MATTER

Independent claim 5 relates to a method for bonding chip modules in card bodies in which chip modules are bonded in the card bodies with a thermoplastic heat-activatable adhesive sheet of an adhesive system composed of a thermoplastic polymer and optionally one or more resins, having

- a) a softening temperature of greater than 65°C and less than 125°C,

- b) a melt flow index (ISO 1133) of greater than 3 and less than 100 cm³/10 minutes,
- c) a storage modulus G' at 23°C, as measured by test method A, of greater than 10⁷ Pas,
- d) a loss modulus G" at 23°C, as measured by test method A, of greater than 10⁶ Pas, and a crossover, as measured by test method A, of less than 125°C.

6. GROUNDS FOR REJECTION TO BE REVIEWED ON APPEAL

The grounds for rejection to be reviewed on appeal are:

- A) whether claims 2, 3, 5, 6 and 8 are obvious over Copperwheat (U.S. 6,846,759) in view of Watada (U.S. 6,012,641).
- B) whether claim 4 is obvious over Copperwheat (U.S. 6,846,759) in view of Uno (U.S. 4,065,439).

7. ARGUMENTS

A) The rejection of claims 2, 3, 5, 6 and 8 as obvious over Copperwheat (U.S. 6,846,759) in view of Watada (U.S. 6,012,641)

According to the examiner, Watada discloses a method for bonding chip modules with card bodies in which a general thermoplastic adhesive is called for to bind the polyester substrate layers together. The examiner sees Copperwheat as disclosing a polyester based thermoplastic adhesive that is known to bond with polyester substrates. Copperwheat mentions Griltex[®]9 adhesive at col. 4, line 10 and the present application mentions Griltex 9 E in example 2. The examiner concludes that the Griltex[®]9 of the

Copperwheat reference is the same as the Griltex 9 E used in Appellants' example 2.

From this, the examiner concludes that it would be obvious to have used the Griltex polyester adhesive of Copperwheat to bond the PET layers making up the chip module and the card body in Watada.

The examiner refers specifically to Watada's col. 4, line 55 - col. 5, line 10 to support his conclusion.

The examiner however attributes something to Watada that simply is not present in the reference. The text referred to by the examiner, at best, pertains to laminating unstretched sheets of polyester to both sides of a stretched polyester (col. 5, lines 9 - 11), but absolutely nothing is mentioned in the cited language about the use of any adhesive, and certainly nothing is mentioned about the use of any adhesive to bond a chip module in a cavity of the card body. Although Watada does mention laminating the sheets together, those skilled in the art understand that lamination may or may not involve the use of an adhesive. Even if those skilled in the art presumed that an adhesive might be used in Watada's lamination, this has nothing to do with the use of an adhesive to bond a chip module in a cavity of a card body.

In the Advisory Action of November 25, 2011, the examiner contends that:

"Given the depth of the wider hole, which creates a ledge on which the chip will rest, the chip would naturally sit on the adhesive layer that laminates the top two sheets of the card, and therefore the chip would be adhered to the card."

A careful study of the Watada reference will show that there is absolutely no basis for the examiner's conclusion that Watada's chip would "sit" on the adhesive layer (even if such an adhesive layer were present, which does not seem to be the case).

The top sheet of example 1 has a thickness of 125 μm . Thus, the adhesive, if there even is an adhesive to bond the layers together, is 125 μm from the top surface. If the cavity for the chip is 630 μm deep, it goes past the adhesive layer holding the top sheet to the sheet below it. If the second opening, as the Examiner points out, is a wider hole over the top hole and has a depth of 150 nm (actually 150 μm), this too would go past the adhesive layer.

Then, if one looks at figure 4, it is clear that the chip goes past the adhesive layer (if there even is an adhesive layer - Watada does not say). Therefore, while there may be some adhesive around the outside of the chip (i.e., at the depth of 125 μm), even if there is one present it would not come into contact with the chip because a hole was made in the surface and the chip is inserted into the hole, and therefore is unlikely to come into contact the adhesive layer. Further, one can see that the bottom of the chip ends within the thickness of the polyester film (1) and does not come into contact with or rest on any adhesive layer.

Still further, Watada never mentions any adhesive... just that the films are laminated to each other. At best, one might assume that there might be an adhesive used in making the laminate, but if there was, it would be between the layers that are

joined together, and the chip would still not be bonded by the adhesive because it does not come into contact with the adhesive.

Accordingly, Applicants' claims cannot in any way be seen as obvious over Copperwheat in view of Watada, and the rejection of claims 2, 3, 5, 6 and 8 as obvious over Copperwheat (U.S. 6,846,759) in view of Watada (U.S. 6,012,641) should now be REVERSED.

B) The rejection of claim 4 as obvious over Copperwheat (U.S. 6,846,759) as applied to claim 1 above in view of Uno (U.S. 4,065,439).

Appellants have previously pointed out to the examiner that claim 1 was cancelled and is no longer in the application (see page 2 of the Response of August 30, 2011), and that this rejection should be taken as a rejection of claim 4 as obvious over Copperwheat in view of Uno.

In this rejection, the examiner argues that Copperwheat does not disclose that his hot melt adhesive includes a reactive epoxy resin, but that Uno discloses that thermoplastic hot melt adhesives can include epoxy components to increase solvent resistance. From this, the examiner concludes that it would be obvious to include an epoxy in the hot melt adhesive of Copperwheat.

However the Copperwheat reference pertains to an adhesive coated felt (col. 1, line 54 - col. 2, line 29) and the use of an epoxy adhesive in the invention of

Copperwheat would therefore, if anything, lead to an epoxy adhesive coated felt substrate. This does not have anything whatsoever to do with any kind of card body, and certainly nothing to do with bonding a chip module to a card body. More specifically, the Examiner's conclusion that "...it would have been obvious to have used a reactive epoxy with the hot melt adhesive of Copperwheat as taught by Uno, to improve solvent resistance" has nothing to do with any kind of card body and cannot possibly lead to Appellants' invention.

Claim 4 depends from claim 5, which is directed to a method for bonding chip modules in card bodies, and therefore incorporates all the limitations of claim 5. Claim 4 therefore is also directed to a method for bonding chip modules in card bodies.

Neither Copperwheat nor Uno have anything to do with a method for bonding chip modules in card bodies, as recited in Appellants' claims 5 & 4, and the rejection of claim 4 under 35 U.S.C. 103(a) as obvious over Copperwheat (U.S. 6,846,759), (as applied to claim 1 above, and) in view of Uno (U.S. 4,065,439) should now be REVERSED.

8. CONCLUSION

Wherefore it is submitted that the final rejection is in error and should be **REVERSED**.

AUTHORIZATION TO CHARGE FILING FEE TO DEPOSIT ACCOUNT

Appellant is:

☐ a small entity

☒ other than a small entity

It is requested that the fee for the filing of the Brief on Appeal be charged to the undersigned's Deposit Account No. 14-1263.

Please charge:

☐ \$310.00 for small entity

☒ \$620.00 for other than small entity.

CONDITIONAL PETITION FOR EXTENSION OF TIME

If any extension of time for this response is required, appellant requests that this be considered a petition therefor. Please charge the required Petition fee to Deposit Account No. 14-1263.

ADDITIONAL FEE

Please charge any insufficiency of fees, or credit any excess to our Deposit Account No. 14-1263.

Respectfully submitted,
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9. CLAIMS APPENDIX

The claims on appeal read as follows:

Claim 2. The method of claim 5, wherein the adhesive sheet is between 10 and 100 μm thick.

Claim 3. The thermoplastic heat-activatable adhesive sheet of claim 1 method of claim 5, wherein said thermoplastic polymer is selected from the group consisting of copolyamides, polyethyl-vinyl acetates, polyvinyl acetates, polyolefins, polyurethanes, and copolyesters.

Claim 4. The method of claim 5, wherein said resins are reactive resins comprising one or more members of the group consisting of epoxy resins, phenolic resins and novolak resins.

Claim 5. A method for bonding chip modules in card bodies which comprises bonding said chip modules in said card bodies with a thermoplastic heat-activatable adhesive sheet of an adhesive system composed of a thermoplastic polymer and optionally one or more resins, having

- a) a softening temperature of greater than 65°C and less than 125°C,
- b) a melt flow index (ISO 1133) of greater than 3 and less than 100 $\text{cm}^3/10$ minutes,
- e) a storage modulus G' at 23°C, as measured by test method A, of greater than 10^7 Pas,
- f) a loss modulus G'' at 23°C, as measured by test method A, of greater than 10^6 Pas,

and a crossover, as measured by test method A, of less than 125°C.

Claim 6. The method of claim 5, wherein said chip modules are polyimide-, polyester or epoxy-based chip modules and said card bodies are PVC, ABS, PET, PC, PP or PE card bodies.

Claim 8. The method of claim 2, wherein said thickness is between 30 and 80 μm .

10. EVIDENCE APPENDIX

No evidence under §§ 1.130, 1.131, or 1.132 has been submitted.

11. RELATED PROCEEDINGS APPENDIX

There have been no decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of 37 CFR 41.37